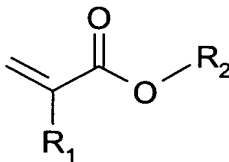


**We claim**

- 5 1. Flame-retardant pressure-sensitive adhesive comprising  
 (a) at least one acrylate adhesive component,  
 (b) at least one ammonium polyphosphate component and  
 (c) at least one resin component.
- 10 2. Pressure-sensitive adhesive according to Claim 1, wherein said at least one acrylate  
 adhesive component comprises at least 35% by weight of the adhesive.
3. Pressure-sensitive adhesive according to Claim 1, wherein said at least one  
 ammonium polyphosphate component comprises at least 25% by weight of the  
 15 adhesive.
4. Pressure-sensitive adhesive according to Claim 1, wherein said at least one resin  
 component comprises at least 25% of the adhesive.
- 20 5. Pressure-sensitive adhesive according to Claim 1, wherein said at least one acrylate  
 adhesive component has an average molecular weight  $M_w$  of not more than  
 600,000 g/mol.
- 25 6. Pressure-sensitive adhesive according to Claim 1, wherein said at least one acrylate  
 adhesive component is based on at least one acrylate monomer of the formula (1)



(1)

where  $R_1$  is H or a  $\text{CH}_3$  radical and  $R_2$  is H or is selected from the group consisting of saturated, branched and unbranched, substituted and unsubstituted  $\text{C}_1$  to  $\text{C}_{30}$  alkyl radicals.

- 30 7. Pressure-sensitive adhesive according to Claim 6, wherein  $R_2$  is other than H and has  
 one or more substituents selected from the group consisting of carboxyl, sulphonic

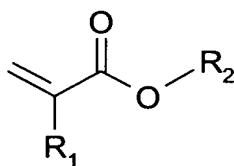
acid, hydroxyl, lactam, lactone, N-substituted amide, N-substituted amine, carbamate, epoxy, thiol, alkoxy, cyano, halide and ether radicals.

8. Pressure-sensitive adhesive according to Claim 6 or 7, wherein  $R_2$  is selected from the group consisting of saturated, branched and unbranched, substituted and unsubstituted  $C_4$  to  $C_{14}$  alkyl radicals.

9. Pressure-sensitive adhesive according to Claim 8, wherein  $R_2$  is selected from the group consisting of bridged and unbridged, substituted and unsubstituted cycloalkyl radicals having at least 6 carbon atoms.

10. Pressure-sensitive adhesive according to Claim 6 or 7, wherein said at least one acrylate monomer of formula (1) is a substituted or unsubstituted compound selected from the group consisting of methyl acrylate, methyl methacrylate, ethyl acrylate, n-butyl acrylate, n-butyl methacrylate, n-pentyl acrylate, n-hexyl acrylate, n-heptyl acrylate, n-octyl acrylate, n-octyl methacrylate, n-nonyl acrylate, lauryl acrylate, stearyl acrylate, behenyl acrylate, isobutyl acrylate, 2-ethylhexyl acrylate, 2-ethylhexyl methacrylate, isooctyl acrylate, isooctyl methacrylate, cyclohexyl methacrylate, isobornyl acrylate, isobornyl methacrylate and 3,5-dimethyladamantyl acrylate.

11. Pressure-sensitive adhesive according to Claim 1, wherein said at least one acrylate adhesive component is based on at least one comonomer as well as on at least one acrylate monomer of the formula (1)



(1)

where  $R_1$  is H or a  $CH_3$  radical and  $R_2$  is H or is selected from the group consisting of saturated, branched and unbranched, substituted and unsubstituted  $C_1$  to  $C_{30}$  alkyl radicals.

12. Pressure-sensitive adhesive according to Claim 11, wherein said at least one comonomer has one or more substituents selected from the group consisting of carboxyl, sulphonic acid, hydroxyl, lactam, lactone, N-substituted amide, N-substituted amine, carbamate, epoxy, thiol, alkoxy, cyano, halide and ether radicals.
13. Pressure-sensitive adhesive according to Claim 11 or 12, wherein said at least one comonomer is a compound selected from the group consisting of N-alkyl-substituted amides.
14. Pressure-sensitive adhesive according to Claim 11 or 12, wherein said at least one comonomer is a compound selected from the group consisting of hydroxyethyl acrylate, hydroxyethyl methacrylate, hydroxypropyl acrylate, hydroxypropyl methacrylate, allyl alcohol, maleic anhydride, itaconic anhydride, Itaconic acid, glyceridyl methacrylate, phenoxyethyl acrylate, phenoxyethyl methacrylate, 2-butoxyethyl acrylate, 2-butoxyethyl methacrylate, cyanoethyl acrylate, cyanoethyl methacrylate, glyceryl methacrylate, 6-hydroxyhexyl methacrylate, vinylacetic acid, tetrahydrofurfuryl acrylate,  $\beta$ -acryloyloxypropionic acid, trichloroacrylic acid, fumaric acid, crotonic acid, aconitic acid and dimethylacrylic acid.
15. Pressure-sensitive adhesive according to Claim 11 or 12, wherein said at least one comonomer is a compound selected from the group consisting of vinyl esters, vinyl ethers, vinyl halides, vinylidene halides, vinyl compounds having aromatic rings or heterocycles in  $\alpha$ -position.
16. Pressure-sensitive adhesive according to Claim 11 or 12, wherein said at least one comonomer is a photoinitiator having a copolymerizable double bond.
17. Pressure-sensitive adhesive according to Claim 11 or 12, wherein an aromatic vinyl compound having  $C_4$  to  $C_{18}$  aromatics or heteroaromatics is added to said at least one comonomer.
18. Pressure-sensitive adhesive according to Claim 1 wherein said at least one resin component is selected from the group consisting of pinene resins, indene resins and rosins or their derivatives or salts; aliphatic, aromatic and alkylaromatic  $C_5$  to  $C_9$  hydrocarbon resins; hydrocarbon resins based on single monomers; hydrogenated

hydrocarbon resins; substituted and unsubstituted hydrocarbon resins; natural resins; terpene resins and terpene-phenolic resins.

19. A flame-retardant pressure-sensitive adhesive tape, comprising a carrier tape which is impregnated with a flame retardant and is coated on one or both sides with the pressure-sensitive adhesive of Claim 1.

20. Flame-retardant pressure-sensitive adhesive tape according to Claim 19, wherein the carrier tape used is a nonwoven PET web or a woven/nonwoven composite, or a woven fabric.

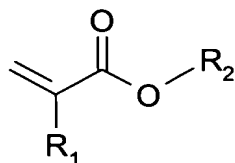
21. Flame-retardant pressure-sensitive adhesive tape according to Claim 19 or 20, wherein the carrier tape is coated with the pressure-sensitive adhesive as a melt by a hotmelt process.

22. Process for producing a flame-retardant pressure-sensitive adhesive of Claim 1, wherein

(a) at least one acrylate adhesive component is prepared by at least partly polymerizing at least one acrylate monomer, optionally in the presence of at least one comonomer, and

(b) successively or simultaneously at least one ammonium polyphosphate component and at least one resin component are combined with the at least one acrylate adhesive component.

23. Process according to Claim 22, wherein said at least one acrylate monomer is of the formula (1)



(1)

in which  $\text{R}_1$  is H or an  $\text{CH}_3$  radical and  $\text{R}_2$  is H or is selected from the group

consisting of saturated, branched and unbranched, substituted and unsubstituted C<sub>1</sub> to C<sub>30</sub> alkyl radicals.

24. Process according to Claim 22 or 23, wherein the polymerization is conducted in solution or in bulk.

25. Process according to any Claim 22 or 23, wherein the at least one ammonium polyphosphate component and the at least one resin component are compounded into a melt of the at least one acrylate adhesive component.

26. Pressure-sensitive adhesive according to Claim 3, wherein said amount of said at least one ammonium polyphosphate component is from 30 to 40% by weight of the adhesive.

27. Pressure-sensitive adhesive according to Claim 8, wherein R<sub>2</sub> is selected from the group consisting of C<sub>4</sub> to C<sub>9</sub> alkyl radicals

28. Pressure sensitive adhesive according to Claim 13, wherein said at least one comonomer is selected from the group consisting of N,N-dimethylacrylamide, N,N-dimethylmethacrylamide, N-tert-butylacrylamide, N-vinylpyrrolidone, N-vinyl lactam, dimethylaminoethyl acrylate, dimethylaminoethyl methacrylate, diethylaminoethyl acrylate, diethylaminoethyl methacrylate, N-methylolacrylamide, N-methylolmethacrylamide, N-(butoxymethyl)methacrylamide, N-(ethoxymethyl)acrylamide and N-isopropylacrylamide.

29. Pressure sensitive adhesive according to Claim 15, wherein said vinyl compounds having aromatic rings or heterocycles in  $\alpha$ -position are selected from the group consisting of vinyl acetate, vinyl formamide, vinylpyridine, ethyl vinyl ether, vinyl chloride, vinylidene chloride and acrylonitrile.

30. Pressure sensitive adhesive according to Claim 16, wherein said comonomer is selected from the group consisting of Norrish I photoinitiators, Norrish II photoinitiators, benzoin acrylates and acrylated benzophenones.

31. Flame-retardant pressure-sensitive adhesive tape according to Claim 21, wherein said hotmelt process is selected from the group consisting of roller coating, melt die processes and extrusion coating.
- 5 32. Process according to Claim 25, wherein said components are compounded into a melt by an extrusion process.